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A NEW SPECIES OF THE GENUS *MICROPODISMA* DOVNAR-ZAPOLSKIJ, 1932 (ORTHOPTERA: ACRIDIDAE, MELANOLPLINAE) FROM KAZAKHSTAN

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Micropodisma malkovskyi Childebaev et Kolov **sp. n.** is described from the East Kazakhstan. A key to species of the genus *Micropodisma* is given.

KEY WORDS: Orthoptera, Acrididae, Melanoplinae, Podismini, *Micropodisma*, taxonomy, new species, key, Altai Mountains.

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Из Восточного Казахстана описан новый для науки вид *Micropodisma malkovskyi* Childebaev et Kolov **sp. n.** Дана определительная таблица видов рода *Micropodisma*.

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INTRODUCTION

The genus *Micropodisma* Dovnar-Zapolskij, 1932 consists of three species distributed in the mountains of Central Europe and Caucasus (Cigliano *et al.*, 2017).

M. koenigi (Burr, 1913) was described from Bakuriani in Georgia (Burr, 1913) and later it was recorded by Mistshenko (1952) from different localities in Caucasus (Georgia, Russia and North-East Turkey). *M. salamandra* (Fischer, 1853) was described from Central Europe (Slovenia) and now this species is known from North Italia, Austria and former Yugoslavia (Fischer, 1853; Harz, 1975). *M. svanetica* Dovnar-Zapolskij, 1932 is endemic to North-East Georgia (Svanetia) but the male of this species is unknown (Dovnar-Zapolskij, 1932).

A new species of the genus *Micropodisma* is found in the mountains of southern Altai (East Kazakhstan) and described below. Holotype and part of paratypes of a new species are kept in Zoological Institute RAS (Russia, St.-Petersburg); other paratypes are deposited in the Department of Entomology, Institute of Zoology CS MES RK (Kazakhstan, Almaty).

The morphological terminology and terminology of male genitalia followed those of Uvarov (1966) and Dirsh (1956) respectively.

TAXONOMY

Family Acrididae MacLeay, 1821

Subfamily Melanoplinae Scudder, 1897

Tribe Podismini Jacobson, 1905

Genus *Micropodisma* Dovnar-Zapolskij, 1932

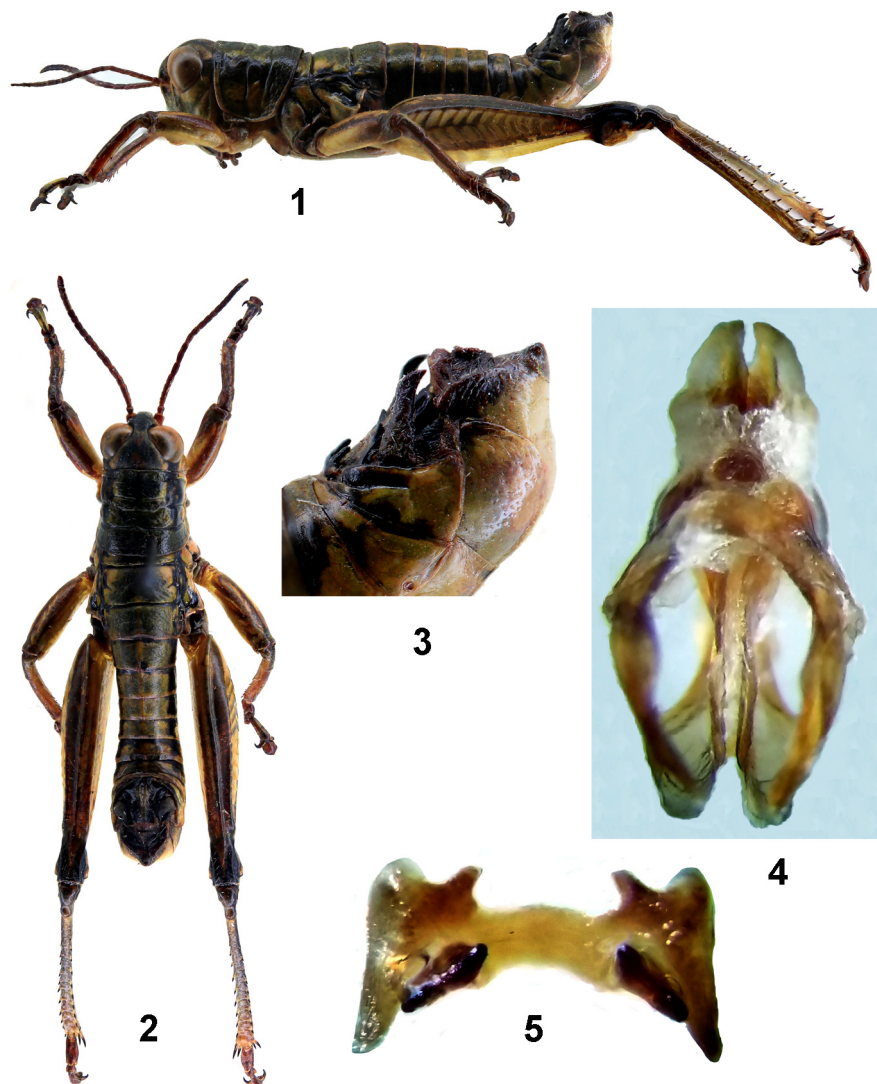
***Micropodisma malkovskyi* Childebaev et Kolov, sp. n.**

Figs 1–8

MATERIAL. Holotype – ♂, **Kazakhstan:** East Kazakhstan area, Prokhnodnoi Belok Mts., 50°10'14.35" N, 83°36'29.61" E, 1638 m, 24.VIII 2010, coll. M. Chil-debaev. Paratypes: 9 ♂, 12 ♀, the same data as in holotype; 1 ♂, 3 ♀♀, the same mountain ridge, floodplain of Marchikha River, 50°09'57.40" N, 83°37'09.20" E, 1180 m, 22.VIII 2010, coll. M. Childebaev.

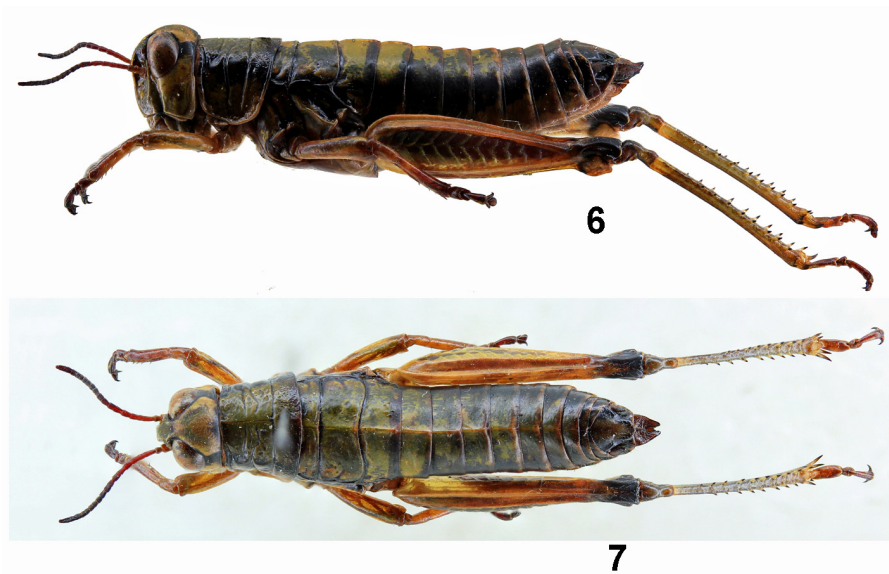
DESCRIPTION. Male. Body slender, medium-sized for the genus (Figs 1, 2, 8). Head distinctly shorter than pronotum. Face in profile gentle reclinate (Fig. 1). Frontal ridge distinctly sulcate near median ocellus, widened between antennal bases but narrowed above and below it. Vertex between eyes slightly narrower than width of frontal ridge between antennae. Fastigium of vertex short, weakly sulcate, without median carinula; foveolae indistinct, finely punctured. Eyes small, oval; vertical diameter of eye 1.6–1.7 times as long as subocular furrow and 1.2 times larger than horizontal diameter of eye. Antennae filiform, slightly surpassing the hind margin of pronotum; mid segments of antennae 1.7–2.0 times as long as width. Pronotum gently punctured, crossed by three transverse furrows; prozona 2.0–2.2 times as long as metazona; anterior margin of prozona and posterior margin of metazona weakly excised near median carina; lateral carinae absent; median carina weak. Prosternal spine straight, conical, with rounded apex. Sternal plate almost smooth,

rarely pointed. Mesosternal lobes transverse; mesosternal interspace trapezoid, its minimal width 1.4 times its length; metasternal lobes separated; maximal width of metasternum 1.5 times less than the combined length of the mesothorax and metathorax. Tegmina and hind wings absent. Fore and mid femora gently widened.



Figs. 1-5. *Micropodisma malkovskyi* sp. n., male (1-3 – holotype; 4, 5 – paratype). 1 – body, lateral view; 2 – the same, dorsal view; 3 – apex of abdomen, lateral view; 4 – phallic complex, dorsal view (epiphallus removed); 5 – epiphallus, dorsal view.

Hind femora moderately stout, 3.8 times as long as their maximal width; dorso-median carina smooth, terminating in a small tooth; ventral genicular lobes obtuse. Hind tibia 1.2–1.3 times shorter than hind femur. Hind tibiae with 9–10 outer and 10–11 inner dorsal spines; outer apical dorsal spine absent. Tarsi with a large arolium extending the apex of claws. Abdomen finely punctured, dorsally with a weak median carina; tympanum large, oval. 10th tergite with two large furculae on posterior margin; the base of furculae not touch each other; apex of furculae pointed. Supra-anal plate triangular; median sulcus distinct near the base only; apex of plate with two curved lateral keels; lateral margins with two tubercles near the middle of plate. Cerci dorsally incurved and reaching apex of the supra-anal plate; laterally cerci conical with obliquely truncated and pointed apex (Fig. 3). Subgenital plate short, with pointed apex (Figs 2, 3). Epiphallus bridge-like, undivided; ancorae long; lophi of epiphallus strongly sclerotized; posterior projections long (Fig. 5). Valves of cingulum short; apical valves of penis long and wide; posterior margin of zygoma broadly rounded; apodemes long (Fig. 4).



Figs. 6-7. *Micropodisma malkovskyi* sp. n., female body. 6 – lateral view; 2 – dorsal view.

Body green with black stripes. Head green, dorsally with black spots at ossiput and between eyes; laterally with black stripe behind eyes. Antennae blackish brown. Disk of pronotum with two black longitudinal lateral stripes; the lower part of the lateral lobes green. Fore and mid legs light brown. Hind femur with outer and upper sides yellowish brown; upper side with two blurred brownish spots; inner and lower sides of femur yellow; upper genicular lobes blackish, lower genicular lobes yellowish brown. Hind tibia dirty bluish; apex of spines black. Abdomen dorsally

green with blackish posterior margins of almost each tergites; laterally abdomen with two broad longitudinal black stripes. Furculae black. Ventral side of body yellow. Supra-anal plate black with light spot near the base. Cerci black. Subgenital plate yellowish with black apex.



Fig. 8. *Micropodisma malkovskyi* sp. n., male.

Female. Similar to male, but larger. Vertical diameter of eye 1.4 times as long as subocular furrow and 1.4–1.5 times larger than horizontal diameter of eye. Antennae shorter, almost reaching the hind margin of pronotum; mid segments of antennae 1.25–1.5 times as long as width. Fore and mid femora not widened (Fig. 6). Hind femora 4.0 times as long as their maximal width. Hind tibia 1.2 times shorter than hind femur. Hind tibiae with 7–9 outer and 9–10 inner dorsal spines. Tarsi with a large arolium almost reaching the apex of claws. Abdomen finely punctured, dorsally with a distinct median carina (Fig. 7). Mesosternal interspace broader than in male, its minimal width 1.1–1.2 times its length; maximal width of metasternum almost equal to combined length of the mesothorax and metathorax. Supra-anal plate elongated triangular; median sulcus distinct near the base only. Cerci short, not reaching apex of the supra-anal plate; laterally cerci conical with pointed apex. Subgenital plate elongated; posterior margin of plate near the middle with long triangle projection and two lateral excisions. Pads pointed. The valves of the ovipositor short, pointed; the upper valves clearly narrowed apically, wide, slightly

longer than the lower valves; the upper outer side of the upper valves with small blunt denticles and with weak apical excision; the lower valves narrow; the lower outer side of the lower valves with two small teeth.

The colour of body and legs as in male but subgenital plate yellowish and ovipositor blackish brown.



Fig. 9. The habitat of *Micropodisma malkovskyi* sp. n. on the Prokhnodnoi Belok mountain ridge (Altai Mts.).

MEASUREMENTS (in mm). Body length: male 15.6–17.8, female 20.0–25.3; pronotum: male 3.1–3.4, female 3.3–3.9; hind femur: male 9.0–9.7, female 9.6–11.1.

DISTRIBUTION. Kazakhstan: Altai Mountains.

COMPARISON. The new species is most similar to *M. koenigi* but differs from latter in the short male prozona, in the stout male hind femora, in male furculae, and in the shape of ovipositor and prosternal spine. In males of *M. koenigi* the prozona about 3 times as long as metazona; the hind femur 4.5–5 times as long as wide; the furculae short and broadly rounded; the lower outer side of the lower valves of ovipositor with strong tooth near the base; and prosternal spine pointed in both sexes. New species is also similar to *M. salamandra* but differs in the shape of furculae, male genitalia and color of hind tibiae. In *M. salamandra* furculae short; valves of cingulum narrow and longer than the apical valves of penis (see Harz, 1975, Figs. 1121, 1124) and hind tibia yellowish. From female of *M. svanetica* new species differs in narrow vertex, in narrow mesosternal interspace and in stouter hind femora.

In *M. svanetica* male is unknown; the female vertex wide, its width between the eyes 1.5 times more than the width of the frontal ridge between the antennae; the mesosternal interspace broader, its minimal width 1.5 times greater than its length; and hind femur 5 times as long as wide.

HABITATS. The new species was collected on the Prokhnodnoi Belok mountain ridge in the grass-mixed meadows at an altitude of 1638 m (Fig. 9), as well as in the floodplain of Marchikha River at an altitude of 1180 m.

ETYMOLOGY. The new species named after Dr. M.P. Malkovsky, who made a significant contribution to the study of locusts and grasshoppers in Kazakhstan.

CONCLUSION

Thus, the genus *Micropodisma* is firstly recorded from Altai Mountains so far from Caucasus and Central Europe. A key to all described species of the genus is given below.

- 1(2) Female vertex wide, its width between the eyes 1.5 times wider than the width of the frontal ridge between the antennae. Male unknown *M. svanetica* **Dovnar-Zapolskij, 1932**
- 2(1) Both sexes with narrow vertex, its width between the eyes equal or slightly narrower than width of frontal ridge between antennae.
- 3(6) Hind tibia yellow or yellowish. Male furculae short, with broadly rounded apex.
- 4(5) Male furculae widely spaced near the base. Posterior margin of female subgenital plate triangular *M. salamandra* **(Fischer, 1853)**
- 5(4) Male furculae adjoining near the base. Posterior margin of female subgenital plate truncated and armed by median triangle projection and sometimes by additional 4 lateral small teeth *M. koenigi* **(Burr, 1913)**
- 6(3) Hind tibia dirty bluish. Male furculae long, with pointed apex *M. malkovskyi* **sp. n.**

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